

a second generator for generating a second movement vector at the search accuracy lower than that of the first movement vector, with a preset second range wider than the first range as the search range.

3. A movement vector generating apparatus according to Claim 2, wherein said selecting device outputs the second movement vector as the selected movement vector if a length of the second movement vector is a length beyond the search range in the first generating device, and outputs the first movement vector as the selected movement vector if the length of the second movement vector is a length belonging to the search range in the first generating device.

4. A movement vector generating apparatus according to Claim 2, wherein said selecting device comprises:

a first adding device for adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said first generating device, to generate a first absolute value sum;

a second adding device for adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the

the first range as the search range.

10. A movement vector generating method according to Claim 9, wherein said selecting process outputs the second movement vector as the selected movement vector if a length of the second movement vector is a length beyond the search range in the first generating process, and outputs the first movement vector as the selected movement vector if the length of the second movement vector is a length belonging to the search range in the first generating process.

11. A movement vector generating method according to Claim 9, wherein said selecting process comprises:

a first adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said first generating device, to generate a first absolute value sum;

a second adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said second generating device, to generate a second absolute value sum; and

a standardizing process of standardizing the

generated first and second absolute value sums, respectively,

said selecting process comparing the standardized first absolute value sum with the standardized second absolute value sum, and outputting the second movement vector as the selected movement vector if the standardized first absolute value sum is greater than the standardized second absolute value sum.

12. ⁴⁰~~42~~ A movement vector generating method according to Claim 9, wherein said selecting process comprises:

a first adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said first generating device, to generate a first absolute value sum;

a second adding process of adding together absolute values of differences between respective one of the pixels in the pixel block and its corresponding pixel in the frame targeted by the movement compensation, as for all of the pixels in the pixel block, in said second generating device, to generate a second absolute value sum; and

a standardizing process of standardizing the generated first and second absolute value sums, respectively,

said selecting process comparing the standardized
first absolute value sum with the standardized second

absolute value sum, outputting the first movement vector as the selected movement vector if a difference between the standardized first absolute value sum and the standardized second absolute value sum is not greater than a predetermined threshold which is set in advance to detect a difference between the first movement vector and the second movement vector at a high accuracy, and outputting the second movement vector as the selected movement vector if the difference between the standardized first absolute value sum and the standardized second absolute value sum is greater than the predetermined threshold.

13. A movement vector generating method according to Claim 9, wherein said selecting process outputs one of the first and second movement vectors which is closer to the selected movement vector corresponding to another pixel block located adjacent to one pixel block as the selected movement vector corresponding to said one pixel block from which the first movement vector and the second movement vector are generated.

14. An image encoding method comprising

(a) a movement vector generating method of generating a movement vector for a movement compensation by means of an inter-frame prediction, when encoding a preset image information including an image of a plurality of frames by

using the movement compensation, said method comprising:

a plurality of generating processes each of generating the movement vector corresponding to a search range and a search accuracy between one frame and another frame, for each pixel block which is located within said one frame respectively in the image information and includes a plurality of pixels, said generating processes respectively using search ranges different from each other and search accuracies different from each other; and

a selecting process of selecting one of movement vectors generated by the generating processes, in accordance with characteristics of the image in said each pixel block, and then outputting the selected movement vector corresponding to said each pixel block,

(b) a compensating process of performing the movement compensation on the basis of the selected movement vector outputted from the selecting process, to output a compensation signal, and

(c) an encoding process of encoding the image information on the basis of the compensation signal.

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